CLAIMS

What is claimed is:

1. A method for use in a data storage system, comprising:

a slider having an air bearing surface, a backside, a trailing edge, and a metalized leading edge surface;

a flexure positioned directly against the slider backside, and formed of a plurality of overstacked layers;

the flexure is secured to the slider leading edge surface by a solder fillet bond that is applied at the leading edge surface of the slider; and

wherein the solder filler flows between the slider leading edge surface and the flexure when heated to form a rigid mechanical connection of the slider to the flexure, while enabling the slider to be separated from the flexure on demand.

2. The method of claim 1, wherein the first layer of the flexure includes a metallic bond pad made of a material that is compatible with a fluxless solder process.

3. The method of claim 2, wherein the metallic bond pad is made of gold-plated copper.

4. The method of claim 1, wherein the plurality of flexure layers further include a second layer and a third layer.

5. The method of claim 4, wherein the second layer of the flexure includes a polyimide insulator layer that provides electrical insulation between the first

layer and the second layer.

6. The method of claim 5, wherein the polyimide insulator layer includes a leading edge that is recessed inward at a substantial distance relative to a leading edge tip of the flexure.

7. The method of claim 4, wherein the third layer of the flexure includes a stainless steel flexure tongue that provides resiliency to the method.

8. A method of forming a slider/suspension assembly for use in a data storage system, comprising:

forming a plurality of adjacently disposed sliders on a wafer, wherein the sliders are positioned in such a manner that trailing edge surfaces of the sliders form a front side of the wafer, and leading edge surfaces of the sliders form a backside of the wafer;

forming a plurality of thin film data transducing elements and a plurality of electrical contact pads on the wafer front side;

metallizing the backside of the wafer so as to metallize the sliders leading edge surfaces while the sliders are on the wafer;

dicing the wafer into a plurality of individual sliders;

positioning a backside of each of a plurality of sliders directly against a corresponding flexure; and

applying a solder fillet bond to a leading edge surface of each of the plurality of sliders, wherein the solder filler flows between a slider leading edge surface and the flexure when heated to form a rigid mechanical connection of the slider to the flexure, while enabling the slider to be separated from the flexure on demand.

9. The method of claim 8, further including forming the flexure of a plurality of overstacked layers.

10. The method of claim 9, wherein forming the flexure includes forming a metallic bond pad made of a material that is compatible with a fluxless solder process.

11. The method of claim 10, wherein forming the metallic bond pad includes forming a gold-plated copper layer.

12. The method of claim 10, wherein forming the flexure further includes forming a second layer and a third layer.

13. The method of claim 12, wherein forming the second layer of the flexure includes forming a polyimide insulator layer that provides electrical insulation between the first layer and the second layer.

14. The method of claim 13, wherein forming the third layer of the flexure includes forming a stainless steel flexure tongue that provides resiliency.